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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,599	10/11/2003	Peter A. Hogenson	BOE 0435 PA	2598

27256 7590 11/29/2005

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EXAMINER

RADI, JOHN A

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,599	Applicant(s) HOGENSON ET AL.	
	Examiner John A. Radi	Art Unit 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-14, and 15-22 are drawn to a Cryogenic Fuel Tank Assembly, classified in class 244, subclass 13.
- II. Claims 23-27, are drawn to a method for cryogenically insulating a tank, classified in class 220, subclass 560.03.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the fuel tank assembly can be made by applying the foam assembly to the inside of a fuel tank wall as opposed to the outside of a fuel tank wall.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Thomas Donohue on November 23, 2005 a provisional election was made without traverse to prosecute the invention of invention I, claims 1-14, and 15-22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23-27 are withdrawn from

Art Unit: 3641

further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Moore (US 20030024934). Moore discloses a cryogenic tank wall (20), a foam assembly (40) affixed to said tank wall (20), a first solid film bonded to outer surface (50) to provide a uniform outer bonding surface; and a thermal protection system (30) bonded to outer bonding surface.

Claim 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosen et al. (US 6868981) which discloses a light weight cryogenic tank wall (12, 15) on which is bonded a honeycomb assembly (14) sandwiched between layers

Art Unit: 3641

of foam (col. 3, lines 1-3), which act as a solid bonding layer, to which a thermal protection system is bonded (15, and 17).

Claims 1, 5-15, 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Middleton et al (US 3365897) which discloses a tank wall (19), foam assembly (23), film layers bonded to inner (29) and outer surface (33), and thermal protection (51) assembly bonded outside of those. The foam assembly of Middleton further comprises a honeycomb layer (23), and silicone and polyurethane adhesive layers (31, 37), and an impact resistant outer layer (51, 39), wherein the impact layer comprises glass fabric (39 is fiberglass cloth).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2-4, and 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Middleton as applied to claim 1 above, and further in view of Weiser et al (US 6133330) and Merrill et al. (US 20040048049).

Middleton discloses the invention as described above with respect to claim 1, but Middleton doesn't teach whereas the foam layer consists of a layer of polyimide foam or polyurethane foam. The use of polyimides and polyurethane foam as insulating materials is well known in the art of insulators and cryogenic tanks. Weiser et al. discloses the use of polyimide foam as an insulating material

Art Unit: 3641

in cryogenic tanks in the aerospace industry (paragraphs 1-3 in Background of the Invention). Merrill et al. discloses a thermal barrier composed of a multiple layers containing a polyurethane foam (paragraph 0038). Because Middleton discloses a cryogenic tank made of multiple layers, and because Merrill and Weiser teach the use of polyimides and polyurethanes as polymer based insulative materials, it would have been obvious to one skilled in the art at the time of invention to build a cryogenic tank as disclosed by Middleton with the materials as disclosed by Weiser and Merrill. Furthermore, such a combination would have been obvious because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-892 for a complete listing of prior art drawn towards similar cryogenic tanks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Radi whose telephone number is 571-272-5883. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3641

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John A. Radi
Patent Examiner
Art Unit 3641



MICHAEL J. GAUDIN
SUPERVISORY PATENT EXAMINER